Remarks

This is in response to the Office Action dated February 8, 2006.

Per the above amendment, claims 1, 3, 9, 12, 15, and 19 have been amended; and new claims 26-33 added.

I.   In response to item 3 in the Office Action, being submitted herewith, per request by the examiner via the attached IDS, is the definition of "cryptography" by the McGraw-Hill Concise Encyclopedia of Science & Technoloy, 4th edition published 1998.

II.   Claims 1-4, 9-12 and 15-20 were rejected under 35 U.S.C. 112. 2nd paragraph.

Per the above amendments to claims 1, 3, 9, 12, 15 and 19, it is respectfully submitted that the Section 112, 2nd paragraph rejection has been overcome.

In response to the objection of claims 1 and 3 under 37 CFR § 1.75(a), the examiner's attention is respectfully directed to the support for those claims on page 23, lines 1-19 of the specification.

III.   Claims 1-4 were rejected under 35 U.S.C. 102(e) as being anticipated by Rodriguez (US 2002/0099943), and claims 9-12 and 15-20 were rejected under 35 U.S.C. 103(a) as being obvious over Rodriguez and Macy et al (US6863455).

Applicants respectfully submit that the Rodriguez publication (2002/0099943) is not prior art against the present application. This is because the Rodriguez '943 publication has a filing date of August 23, 2001 whereas the instant application claims Japanese priority dates from February 2, 2001 to February 27, 2001, and the provisional application (60/263,987) from which the Rodriguez '943 publication claims priority does not have the

same disclosure as the Rodriguez '943 publication. Points of illustration. The Abstracts of the Disclosure for the '987 provisional application and the '943 publication are different. There are no drawings in the '987 application. Nor does it appear that the contents of paragraphs 0013 and 0014 of the '943 publication by which the examiner relied upon for rejecting the claims of the instant application are disclosed in the '987 provisional application. Thus, the Rodriguez '943 publication is not valid prior art against the instant application.

For the convenience of the examiner, a copy of provisional application 60/263,987 is attached as Appendix A.

In view of the fact that the '943 publication is not prior art against the instant application, in the event the examiner continues to believe that there are portions of the Rodriguez '943 publication based on '987 provisional application that may be applied against the claims of the instant application, the examiner is respectfully requested to point out where in the '987 provisional application are those portions of the disclosure.

Claims 1-4

It is further respectfully submitted claims 1-4 are distinguishable from the Rodriguez '987 provisional application (and also the '943 publication if it were a valid reference which it is not). Specifically, neither the '987 provisional application nor Rodriguez '943 teaches the features of claims 1 and 3 that the predetermined bit pattern and the specified bit pattern are used, and that the desired bit pattern is calculated by performing the given logical operation between the predetermined bit pattern and the specified bit pattern.[1]

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[1] In Rodriguez '943, the patterns in Fig. 2 are halftone structures rather than a predetermined bit pattern and a specified bit pattern as recited in claims 1 and 3. In the upper half of page 6 of the Office Action, the Examiner states that Rodriguez '943 describes a logical operation between the message signal (i.e. a predetermined bit pattern) and the carrier (i.e. a specified bit pattern). Rodriguez '943 fails to disclose or suggest that the massage signal and the carrier are the patterns in Fig. 2. Therefore, the patterns in Fig. 2 of Rodriguez '943 do not correspond to the predetermined bit

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Claims 9-12:

The feature of the apparatus of claim 9 is that the specified bits are among bits in a first portion of the original picture data which corresponds to the watermark-embedding position, and the specified bits are changed to represent the desired bit pattern while a result of the given logical operation between the watermark data and the random-number data is embedded in a second portion of the original picture data which corresponds to the watermark-embedding position and which adjoins the first portion of the original picture data.

This positional relation between the desired bit pattern and the given logical operation result in the watermark-embedded data provides the following advantage. In a decoder side, the desired bit pattern can be used as a starter for decoding the given logical operation result as suggested in the specification, page 49.

The above feature of the apparatus of claim 9 and the above advantage are taught by neither Rodriguez nor Macy et al (US 6823455). Therefore, it is respectfully submitted that claim 9 is patentable over Rodriguez and Macy.

Claim 12 is a method counterpart of claim 9. Therefore, the above arguments for claim 9 are equally applicable with respect to claim 12.

Claims 15-20, 26, and 27:

It is respectfully submitted that claims 15-20, 26, and 27 are patentable over Rodriguez and Macy for reasons similar to those in the above arguments submitted for claims 9-12.

IV.   The following comments relate to the newly added claims.

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pattern and the specified bit pattern in claims 1 and 3.

<u>Claim 28</u>:

The map data storing means corresponds to the memory 16 in Fig. 1.[2] As mentioned in the specification, page 21, line 17, the memory 16 stores map data. As mentioned in the specification, page 21, line 25 to page 22, line 1, the map data indicates the positions of the prescribed blocks D with respect to the frame, and the positions of the prescribed blocks D correspond to watermark-embedding positions.

The pattern generating means corresponds to the embedding-position detector 13 and the fixed pattern generator 14 in Fig. 1. The function of the pattern generating means is supported by the specification, page 22, lines 5-26. An example of the predetermined bit pattern is shown in Fig. 7.

The specified-bit detecting means corresponds to the pixel specified-bit detector 11 in Fig. 1. The function of the specified-bit detecting means is supported by the specification, page 18, lines 15-26.

The data-storing and calculating means corresponds to the exclusive-OR device 12 in Fig. 1. The function of the data-storing and calculating means is supported by the specification, page 23, lines 1-19. An example of the specified bit pattern is shown in Fig. 8.

The mixing means corresponds to the watermark mixer 15 in Fig. 1. The function of the mixing means is supported by the specification, page 24, lines 3-22.
The predetermined bit pattern is a first two-dimensional bit pattern having a square matrix array of bits with a same number of vertical-line bits and horizontal-line bits. The predetermined bit pattern remains unchanged when being rotated through one of 90, 180,

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[2] For the correspondence of the being discussed map data storing means and the other hereinbelow recited means to the components disclosed in the specification, it should be appreciated that the recited means encompasses both the disclosed component(s) and its/their equivalents.

and 270 degrees. An example of the predetermined bit pattern is shown in Fig. 7. The specified bit pattern is a second two-dimensional bit pattern having a square matrix array of bits and equal in size to the first two-dimensional bit pattern. The specified bit pattern remains unchanged when being rotated through one of 90, 180, and 270 degrees. An example of the specified bit pattern is shown in Fig. 8.

It is respectfully submitted that Rodriguez '987 (or '943) does not teach that the predetermined bit pattern and the specified bit pattern are square matrix arrays of bits and remain unchanged when being rotated through one of 90, 180, and 270 degrees.[3]

Claim 29:

The first two-dimensional bit pattern, that is, the predetermined bit pattern, is a first "0" and "1" checkered bit pattern. An example of the first "0" and "1" checkered bit pattern is shown in Fig. 7. The second two-dimensional bit pattern, that is, the specified bit pattern, is a second "0" and "1" checkered bit pattern different from the first "0" and "1" checkered bit pattern. An example of the first "0" and "1" checkered bit pattern is shown in Fig. 8.

Rodriguez '987 (or '943) does not teach any first "0" and "1" checkered bit pattern and the second "0" and "1" checkered bit pattern.

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[3] In Rodriguez '943, patterns in Fig. 2 are halftone structures rather than a predetermined bit pattern and a specified bit pattern corresponding to those in claim 28.

In the upper half of page 6 of the Office Action, the Examiner states that Rodriguez describes a logical operation between the message signal (i.e. a predetermined bit pattern) and the carrier (i.e. a specified bit pattern). But Rodriguez '943 does not indicate that the massage signal and the carrier are the patterns in Fig. 2. Therefore, the patterns in Fig. 2 of Rodriguez '943 do not correspond to the predetermined bit pattern and the specified bit pattern in claim 28.

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<u>Claim 30</u>:

The desired bit pattern is formed by bits of "1" only. This is supported by the specification, page 23, lines 12-15, and lines 25-26.

Rodriguez '987 (or '943) does not teach that the desired bit pattern is formed by bits of "1" only.

<u>Claims 31-33</u>:

Claims 31-33 are methods that correspond to the apparatus of claims 28-30.

The following relates to the claims rejected as being obvious over the combination of Rodriguez and Macy et al (US 6823455).

V.   <u>Conclusion</u>

In sum, applicants respectfully submit that all requirements have been met and all rejections overcome, particularly in light of the fact that the main reference applied by the examiner (the Rodriguez '943 publication) is not a valid prior art reference against the instant application. Accordingly, the examiner is respectfully requested to reconsider the instant application and pass the same to issue at an early date.

Respectfully submitted,

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